

Inventor(s): Ziyu Dai, et al.
DOCKET NO.: 059440-0141

Figure 1

TTTGAAAAAATTGGAAAAGAACGTAGGACCACATGGACCTTGGGTGCAACAATAT
 TGTGTCTCTCCAAATGTGGTACAAGGATTGTTACATCCTCCGGGTACTTTAAGTT
 GACCAGGGCATTACCATTATATTTGCCGTGCATTGAATTGTGTGGCATTTCCTC
 TCCACTTGGATTAGTCGGGGCGAAAGTCATCGGTATATTAAATCCATCAACTAAA
 GAAATGTCCCAGAAATCTAAGTTGTTGAACTGGTCCAAGGCGTACTCGGCTAGGG
 TGTTTGGTGGTTTGCCCCACCCGGTGCAC TGCAGGACACCACCACAATCACCAGT
 CATGCACGAACCTCTACCAGCACCATCGAAGTTACATCCAGTACGACCCCATATA
 CCTGCCATCGTAGTGCCCTTAGGCGCATCAATGACCCACATTGGCCCCGATCGA
 AACGTCGGCACC CGCTTT CGGGGT CGATG CCGCCCAAAC ~~TTG~~ TTG
 TTGCGTACCTCGATAGTGGCAGCATATAAGTGAAGTCAAAAAGCAAGAAGGGAGA
 AAACAAAAGAAGATCTCAAGTAGCCCATGTTTGTGAAATTTATATGTGGACAAA
 TTATTTTGGTACTTTATATATAGGGATATGGCGGCTTTTGGCACTACGGATATT
 AATCGTATTATATAGCAATATCATACTTTGACTAATTATAAACGAAATATATTAC
 AATATGATTTGGTAAACGTTGAGGTGGAAAAATGTATAAGAGCCGCTAATAATT
 AATTATTTTATGAATATAGCCTATAGTTACAAGTTAACTTTATTTGGTGATAACT
 TTGACATATAAACTCTGTAACTGACGGAATTTTCTTAAAACTAAATATTAAAA
 AGCAGCTATTTTCAGATTTTTCGTGGCCAAAGTTTCTTGCATACTTATCTATGCC
 CATTTTCTACTTTTATCGTTCTAGCCTTCTAGGTACACGTTTGAACATAAAAAATC
 AAAAAAATTGAAAGTAAAAATTAGTTTTTTTTTTTTCATATTACTCGTAGGGATCA
 TTTGTTAGATCAATCTGAAATATACAAACCATCTGATTTTAAATCACAACCAT
 TCTGCCAAGGGGAAGTCTATGTGATCCGTGACAAGTGGTTGATTATTTCTTAGTC
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 GCAAAATATCTATTAAAGAACCCTATTATGCTTTTATTTTACGATCGGA
 GCATGGATATATTTACTAATTAATAAATTGGAAGGAATTGATCGACAAGTCAT
 CAAGCTTATCGTCGATCCACTTAAAAATAACGTTAGTATGGCTGCTTTTAGAGAA
 ACAAGTGGATCATGTATAAATTTAGTTTTTAAATATCTCCTATAAAATATCTATATA
 TACCTCTAAAACTAAATGCATCTAAACAACACAAATATAAACTTAGATTCTTTAA
 GAAATTGCAGAAATTAAATGAGGCAAATAAGTCTATGGTGAAGTTGGTTGCTTTC

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Isoform II of Pin1 Gene Promoter

TTTGA AAAA AATTG GAAA AGAAC GTAGG ACCAC ATGG ACCTT GGGT GCAACA ATAT
TGTTG TCCTC CAAAT GTGGT ACAAG GATTG TTACAT CCTCC GGGT ACTTTA AGCT
GACTAG GACATT CACCATT TATATTT GCCGT GCATTGA ATTGT GTGGC ATTTCCC
TCCACTT GGATTAG TCGGG GCGAA AGTCAT CGGTAT ATTTAA ATCCAT CAACTAAA
GAAATGT CCCAGAA ATCTA AGTTG TTGAA CTGGT CCAAG GCGTACT CGGCTAGGG
TGTTTGGTGGTTTGCCCC ACCCGGTGCATG CAGCAGAC ACCACCACA ATCACCAGT
CATGCACGAACCTCTACCAGCACCACCGAAGTTACATCCAGTACGACCCCATATA
CGTGCCATCGTAGTGCCCCTAGGCGCATCAATGACCCACATTTGGCCTCGATCGA
GACGTCGGGCACCGCCTATCGGGTCGATG ~~CGGCT~~ AAACGATGTATGGACAGTTG
TTGGCGGTACCTCGATAGTGACAGCATAAGTGAAAGTCACAAAAGCCAGAAGGGA
GAAACCAAAAGAAGATCTCAAGTAGCCCATGTTTGTTGAAATTTATATGTGGACA
AATTATTTTTTGGTACTTTATATATAGGGATATGGCGGCTTTTGGCACTACGGATA
TTAATCGTATTATATAACAATATCATACTTTGACTAATTATAAACGAAATATATT
ACAATATGATTTGGTAAACGTTGAGGTGAAAAATGTATAAGAGCCGCTAATAA
TTAATTATTTTATGAATATAGCCTATAGTTACAAGTTAACTTTATTTGGTGATAA
CTTTGACATATAAACTCTGTAACGTGACGGAATTTTTCTTAAACTAAATATTAA
AAAGCAGCTATTTTCAGATTTTTCGTGGCCAAAGTCTCTTG CATACTTATCTATG
CCCATTTTTACTTTTATCGTTCTAGCCTTCTAGGTACACGTTTGAACATAAAAA
TCATAAAAAATGAAAGTAAAAATTAGTTTTTTTTTTCTATATTACTCGTATGGAT
ATTCTGTGTAGATCAATGAGTCTGAAATATACAACCATTCTGATTTTAAATCACAACC
CATTTGGCTTAATGCGGAAGTCTATGTGATTTCGTGGCAAGTGTTTGATTATTCTTA
GTCTAGATTGGAGTCACAACTTTTAGTGCAAATATCTATTAAAGAACCCCTATT
GATGCAAATATCTATTAAAGAACCCCTATT CATACTTTATTTATTTTTACGATC
GGAGCATGGATATATTTACTAATTAAAAATAAATTGGGAGGAATTGATCGACAAGC
CATCAAGCTTATCGTGCATCCACATTAGGATAACGTTAGTATGGCTGTTTTTAGA
GAAACAAGTGGATCATGTACAATTGAGTTAAAAAATATCTCCTATAAAATACCTGT
CTATCCCTCTTAAACCAAATACATCTAACACACAAAATATAAACTTAGATTCCCT
AAAGAAATTGCAGAAATAA ~~ATG~~ GAGGCAAATAAGTCTATGGTGAAGTTGTTGCT
TTC

Title: GENE PROMOTERS
ISOLATED FROM POTATO AND
USE THEREOF

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Figure 3

Isoform III of Pin1 Gene Promoter

ATCTTTGTTTGAAAAAATTGGAAAAGAACGTAGGACCACATGGACCTTGGGTGCA
ACAATATTGTTGTCCTCCAAATGTGGTACAAGGATTGTTACATCCTCCGGGTACT
TTAAGCTGACTAGGACATTCACCATTTATATTTGCCGTGCATTGAATTGCGTGGC
ATTTCCCTCCACTTGATTAGTCGGGGCGAAAGTCATCGGTATATTAAATCCATC
AACTAAAGAAATGTCCCAGAAATCTAAGTTGTTGAACTGGTCCGAGGCGTACTCG
GCTAGGGTGTTTGGCGGTTTACCCACCCGGTGCACTGCAGGACACCACCACAAT
CACCAGTCATGCACGAACCTCTACCAGCACCATCGAAGTTACATCCAGTACGACC
CCATATACGTGCCATCGTAGTGCCCCTAGGCGCATCAATGACCCACGTTTGGCCT
CGATCGAGACGTGGCCACCGCCTATCGGGGTGATGCTGCCAGACGGTGTATG
GACAGTTGTTGCGTACCTCGATAGTGGCAGCATAAGTGAAAGTCACAAAAGCAAG
AAGGGAGAAAACAAAAGAAGATCTCAAGTAGCCCATGTTTGTGAAATTTATATG
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AATATTACAATATGATTTGCTAAAGCTTACGCTGGCTAAATCTAATAGAGGGGCC
TAATAATTAATTATTTTATGAATATAGACTATAGTTACAAGTGAACTTTATTTGG
TGATAACTTGGACATATAAACTCTGTATCGTGACGGAACTTTCTTAAAACTAAA
TATTAAAAAGCAGCTATTTTAAATTTTTTCGTGGCCAAAGTTTCTTGCACTACTTA
TCTATGCCCATTTTTACTTTTATCGTTCTAGCCTTCTAGGTACGCGTTTGAACAT
AAAAAATCATAAAAATTGAAAGTAAAAATTAGTTTTTTTTTCATATTACTCGTATG
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ACTATTCTGCATGATGGGAACGTCTATGGTGATTCTGTGACAAGTGTTTGATTTAT
TCTAAGTCTGGATTGGAGTCACAACTTTTAGTGCAAATATCTATTAAAAGAACCC
CTATTTGATGCAAAAGTCAATAAATATTTAATATCATCTTTTATTATTTTTTACG
ATCGGAGCATGGATACATTTACTAATTAATAAATAAATTGGAAGGAATTGATCGACA
AGTCATCAAGCTTATCGTCGATCCACATTAAAATAACGTTAGTATGGCTGCTTTT
AGAGAAACAAGTGGATCATGTATAATTTAGTTTTTAAATATCTCCTATAAATATC
TATATATACCTCTAAAACTAAATGCATCTAACAACACAAATATAAACTTAGATTC
TTTAAAGAAATTGCAGAATTAAATGGAGGCAAATAAGTCTATGGTGAAGTTGGTT
GCTTTC-3-end

Figure 4

Isoform I of Amt Gene Promoter

ACTATAGGGCACGCGTGGTCGACGGCCCTGGCTGGTCTGATTTAGGAGTATTTCAATCAATCAATT
TTATAAGAATTTACAGTCTGCACTCTGGAGACATTCTTATTTTCATAATGTAATATTGCGTAATTGG
GGAAGTGAAGTTTCTTGAGGCGCTTTTCTAGTGTTTTTAACTTCATTTTGTGCTATCATAGTTACT
TGTTTTTCGTTAAGGTAAGATTTTATTGACGTATATGGGAAATTCCTTGTAAGAGCTGACACGGTA
AACTGGACCTAAATATATTTAGATGATGAGGAGGAGGTAAGCAAGGGGAGGTAAGTAAATGTAAT
TAAACACTTATTATTAGGCCAAAAAGTATAAA
AATAAACTAAAAGCTAAAAGTTGGGTATGCCCGACTTATGATTTTTAACTTTTAGCTTATAAGCTA
CTTAAAGAAAGCCAATCCAAACGACCTGTTCTTAGGTGTAAGATTTTGAAGACTAAGCAAATTTAT
TTTCATGAAACAACATTGTTTTTGTGTTAGCGATATGCCATTAAAGTCGTTTATGTTCTAATTAATCT
GGTTTTGTAGGCTGGTTTTCCATGCAAAATGTATTCCAGCAGCTAGCAGTTTACAGGAGCATATAGT
TAAATCAACACCGGCAAGATATAGTAGTACACAGGCATGTTTGGAAAAATGACCATTTCTGGAAC
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TATTTCACTCATTGACATAAAAGCGTAATAAGAATTTTACTAAAACAATGTATCTCCACTTTTGC
AGGTTCAAGGGTCATGATATGTTGGCACCCTTCACTGCTGGGTGGCAAAGTACTGATGTGGATCCT
TTAATTATAGAGAAGTCTGAGGTAGATTTATGTCTACTTTTGCTGTCTAACTTAAGAGAAGTTTA
TATATCTTTCGTGATCAACTTTTACATTTTGACATAGGGATCCCACGTATATGACATGCAAGGGAG
GAAGTATCTTGATACTCTAGCTGGTTTGTGGTGCACAGCACTAGGGGGGAACG-3-end

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Figure 5

Isoform II of Amt Gene Promoter

[illegible]

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300 301 302 303 304

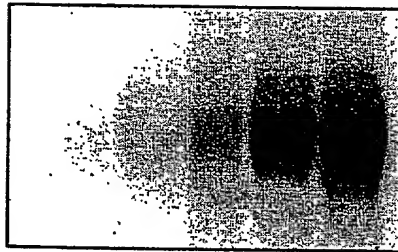


Figure 6

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400 401 402 403 404

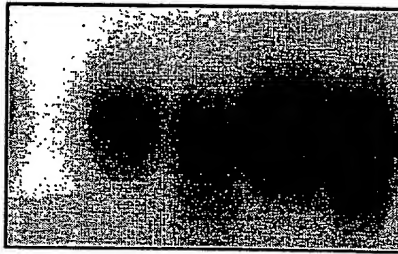


Figure 7

PIN1

Putative identity: Potato ethylene responsive proteinase inhibitor 1 (ER1) mRNA

cDNA Sequence

ACCAGCTTAGATTCTTTAAAGAAATTGCAGAATTAAAGAGGCAAATAAGTCTATGGTGAAGTTGGTTGC
TTTCTTGATAATTTTTCATCATGCTTTCAATCTCTCACTGCTCAAGATTGGAAATCGAAGTTAGTGATG
GCTTAAATGTCTTGCAACTACATGATGTGTCTCAGTCATTTTGTCCAGGTGTGACGAAAGAAAGTTGGCCA
GAACTTCTAGGGACACCAGCTAAGTTTGCAAAGCAAATAATTGAGAAGGAAATCCAAAATTAACAAATGT
TGAAACTCTACTGAATGGTTCTGCTTTTACAGAAGATTTGAGATGCAATAGAGTTCGTCTTTTGTTAATT
TATTGGACATTGTTGTACAACTCCCAAAGTTGGTACAAAATTAATTCATGTTATATATATGTATCTA
GCCTCCAGAAAAATAAATTGGAGTTGTAATATGGTTAATGCTTCCACTATATTTGGTGATAAATAAACGTG
GCTTTTAAATATTAAAAAAAAAAAAAAAAAAAA

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Aminotransferase cDNA - full length 1/17/01

CCGATATTTGATTGCAATTTAGCAACGAATTGATTGGAAGGATCATATCAAATGGCTAAGATTTCTTGTC
TTATTGGATCCACCGTCAAAGCAGCTATCACCGCCAGGCTGGTTTTCCATGCAAAACGTATTCCAGCAGTT
AGCAGTTTACAGGAGCATATAGTTAAATCAACACCGGCAAGATATAGTAGTACACAGGCATGTTTGGAAAA
TGACATTTCTGGAAGTATAATAAAGGGTTCAAGGGTCATGATATGTTGGCACCCTTCACTGCTGGGTGGC
AAAGTACTGATGTGGATCCTTTAATTATAGAGAAGTCTGAGGGATCCCACGTATATGACATGCAAGGGAGG
AAGTATCTTGATACTCTAGCTGGTTTTGTGGTGCACAGCACTAGGGGGGAACGAGCCTCGCCTGGTTGATGC
TGCCACTAAGCAATTAACACATTGCCATTTTACCATTCAATTTTGAACCGTACAACAAAACCTTCTTTGG
ATCTTGCGAAGGAGCTTCTGGATATGTTTACTGCAAGAAAATGGCAAAAGCTTTTTTACCAATAGTGGA
TCAGAAGCCAATGATACCCAGGTGAAGCTGGTTTGGTATTATAACAATGCTCTTGGAAGGCCAAACAAAA
GAAATTTATAGCTCGAGCAAAAGCATATCATGGTTCAACTCTTATTTCTGCCAGTCTCACTGGTCTTCTCTG
CATTACATCAAAATTTTGATCTTCTGCTCCATTTGTTCTTTCACACCGACTGTCCTCATTATTGGCGTTAT
CATCTGCCAGGTGAGACAGAGGAGGAGTTCTCTACCAGATTGGCTAAAAATTTGGAAGATCTTATCCTCAA
AGAGGGGCCTGAAACAATAGCTGCTTTTATTGCTGAACCAGTCATGGGGGCAGGAGGTGTCATACCTCCTC
CAGCTACCTATTTTGATAAGATTCAAGCTGTAGTGAAGAAATATGACATTCTTTTATTGCGGATGAGGTG
ATCTGTGCCCTTTGGGAGGCTTGGAACAATGTTTGGCTCTGACATGTATAACATCAAACCTGATCTTGTCTC
CTTAGCAAAGGCTCTTTCTTCTGCATATATGCCAATTGGAGCTGTCCTTGTAAGCCCTGAAGTTTCTGATG
TAATTCATTCTCAAAGCAATAAACTTGGTTCCTTTTCCCATGGATTCACTTATTCTGGGCATCCTGTTGCA
TGCGCGGTGGCATTGGAAGCTATTAAATCTACAAGGAGCGAAATATGGTTGAGAGAGTAAATACAATATC
CCCAAAGTTTTCAAGAAGGTCTGAAGGAGTTTTCTGACAGTCCCATTATCGGAGAGATTAGGGGAATTGGTT
TGATCCTTGCCACAGAGTTTGCGAATAACAAATCTCCTAATGATCCTTTCCCTCCTGAATGGGGTGTGGT
GCATATTTTGGAGCACAATGTCAGAAGAATGGCATGTTGGTACGTGTTGCTGGTGATACCATCATGATGTC
TCCTCCATTTGTAGTTACTCCAGAAGAACTTGACGAGTTGATTAGCATCTATGGGAAAGCATTGAGGGAAA
CTGAAAAGAGAGTAGAAGAACTCAAGTCTCAGAAGTGATATTAGTTGACAGCACAAGCTTGACGATGACGA
AAAAACAAAAACAAATTCAAGCACAATAAAATAAAAAAATCAAATGTGTTGGATATTCTGTAAATGTCCA
GAATGAAGTAATGAGTATAATTTTAGTCCAAGTTGCTCCTCTTCTCTTTTCAATTTTACATGCAGTATAGTT
TCACCAGTTCATTATTGATGAAGATGTCTATCCCCTTAACCAGTTGTACCCCAAGATTAATGCATTTTAC
CAAAAAATCGAATTTATTAATCTATGTTCTTGTAATTAATTGAGTTTTTTTTTATGTTTCGAGTTTGTACGTT
AATGCACATTTCTCCTATAAAGTCTTTTCTGTCAATAATATTTTCTTAAAAGTAATCATGTTGTATTGGG
ATTCAAATAAAAAATGAATGCTCGCCAAACAAAAA*
CCTTCTGATG

Figure 9

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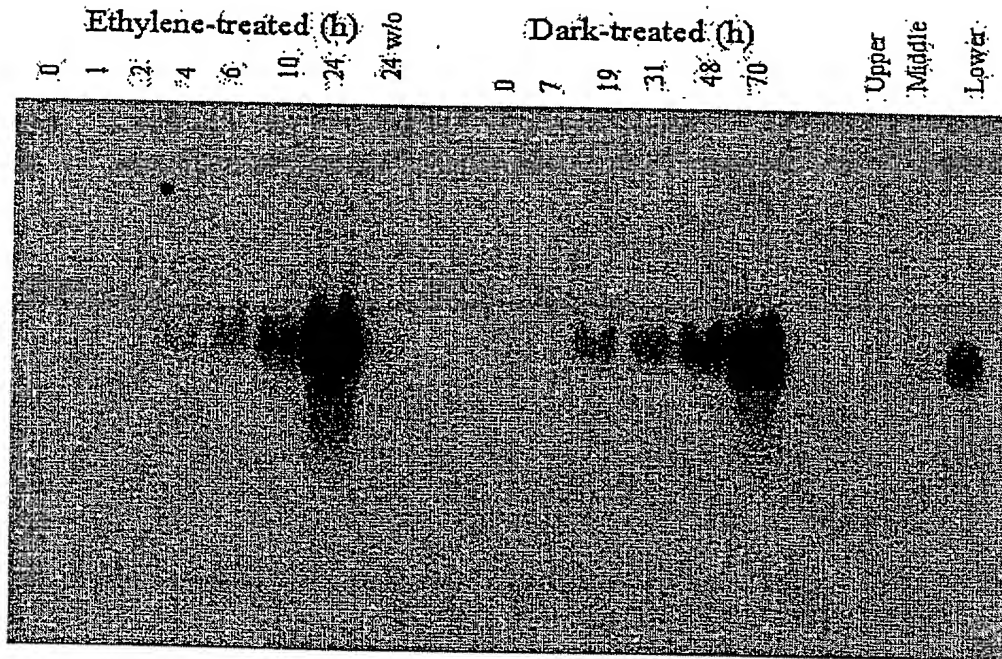


Figure 10

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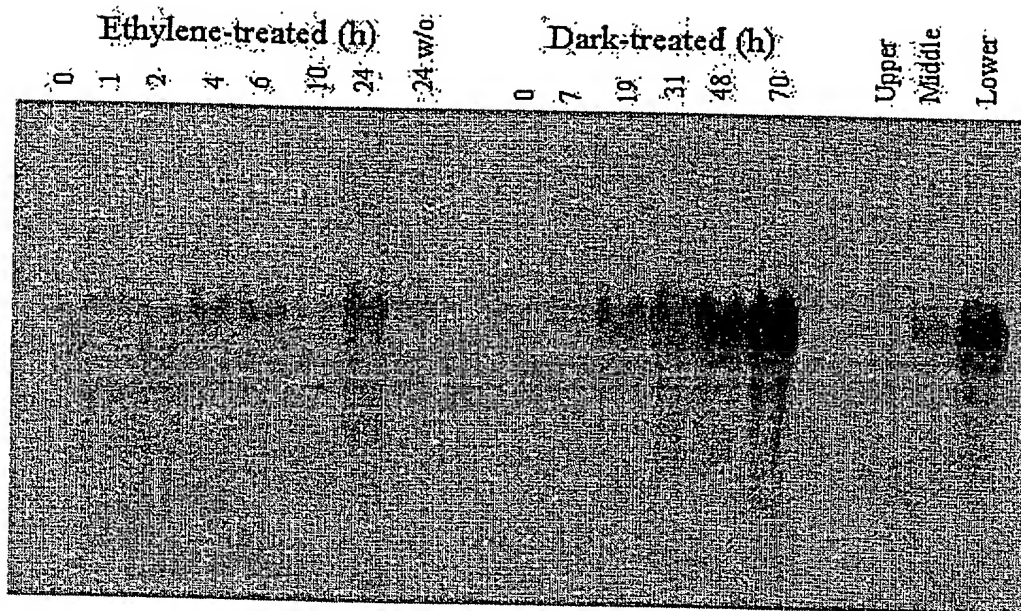


Figure 11